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Some Problems of Allergy in Childhood

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Allergy is a constitutional phenomenon, predominately functional, only secondarily organic. Allergic manifestations are clear cut patterns which usually allow for easy recognition. For the sake of concrete thought, divide the human constitution in four following panels: physiclogic, morphologic, psychic, and the immunologic. An attempt will be made to incorporate anaphylaxis (allergy) under the panel of immunology.

Henry Sewell (1882-1889) by injections of sublethal doses of rattlesnake venom into pigeons showed that these subjects could be protected against large lethal doses of the same substance. From this is postulated the theory of the formation of immune anti-bodies (protective anti-bodies). Ricket in 1902 recorded this observation: A foreign substance which on first injection may be relatively harmless may, on reinjection, become severely toxic, even fatal, when reinjected in the same or smaller dosage. An interval of several days must elapse between the first and second injections. This is ascribed to the anophlactoid reaction, or the formation of a sensitizing anti-body. The consideration of these two anti-bodies both as immunological by products, can be taken as a basis for a rational approach to the understanding of allergy.

The pathological response most characteristic of allergy are three in number: (1) Smooth muscle spasm, (2) Increased capillary permeability with resulting loss of fluid into the tussue, and (3) Eosinophilia. Earliest attention was devoted to spasm of smooth muscle, particularly bronchospasm. Recently more thought has been paid to increased capillary permeability, and its associated symptomotology. Urticaria and angisneurotic edema are typical examples, also anaphylactic shock. The blood pressure response in anaphylactic shock in rabbits and dogs is, first, one of hypertension to be followed by a more pronounced hypopiesis. This is to be interpreted as preliminary myospasm followed by capillary hyperpermeability. Normally the movement of fluid through the capillary wall is held in balance by two opposite forces which are usually about equal: Capillary blood pressure and colloid osmotic pressure of the blood. The average capillaries of the muscle alone have a total area of 3000 times the entire body surface and the capillary wall is so effective a filter that, in the absence of a retaining force, the entire plasma can pass from the capillaries into the tissues within ten seconds.

Eosinophilia is present in allergic states particularly in chronic asthma. There is a local increase of these cells in the shock tissue as well as in the systemic blood.

Finally, no matter what the shock tissue the basic pathologic responce is very similar. The resulting clinical symptoms depend upon the location of the shock organ; i. e. asthma

in case of the bronchi, colitis in case of colonic mucosa, angioneuritic edema and urticaria and eczema in case of skin and subcutaneous structure.

In taking routine allergic histories, the strong hereditary predisposition to this disease is at once apparent and it is of scientific importance, if possible, to arrive at some decision as to the mechanism of transmission of this tendency. Several ideas have been advanced. It is likely that the chromosone carries over to the offspring this abnormal immunological tendency and that the sensitizing anti-bodies are formed in the fetus in response to allergens transmitted through the placental membrane. The first allergic response can occur in the nursery, where it is evident that the infant has come in contact with only a very limited number of allergens. At this stage it can be shown by passive transfer, or direct interdermal tests, that the newborn is already sensitive to certain foods that have never entered his gastrointestinal tract. From this we must assume that during the gestational period it not only developed the allergic tendency, but that it actually formed sensitizing anti-bodies. There is only one way in which it might have done this, and that was through the placental membrane in response to foods taken by the mother. This would certainly justify the obstetrician in his efforts to discourage the pregnant mother in over indulging in certain foods. By this it would mean that instead of eating large amounts of chocolate or wheat products, as examples, the expectant mother should vary her menu.

With these introductory thoughts, I will now discuss allergic manifestations in children; listed in order of their frequency of occurrence:

1. Respiratory
2. Gastro-intestinal
3. Skin
4. Migraine
5. Miscellaneous

In the age group from birth to 14 years, the most frequent allergic reaction is manifested in the respiratory tract. This group can be divided into allergic rhinitis and bronchial asthma. Both may, and frequently do, appear in the same subject.

There is a group of ill-defined respiratory conditions which are frequently labeled "a chronic cold," for want of a more definite diagnosis. The usual history is that of a child who has always had more than the average number of respiratory infections "always has a stuffy nose; always has a cough." Symptoms that are mild in the summer are more severe during the winter, and as a result most of the child's winters are spent indoors. Low grade fever is frequently present. There is usually an antecedent history of a definite allergic disease, or some ill defined chronic bronchitis or rhinitis, on the part of one or both parents.

On examination the subject is not of the usually robust development. The positive points of importance are: (1) Edematous turbinates with little remaining breathing space. The nasal mucosa may be pale but is frequently erythematous from much blowing in an effort to open the nares. (2) Increased retropharyngeal lymphoid tissue with hypertrophy of the tonsilar and adenoid tissue (if a tonsilectomy and adenoidectomy has not already been done). (3) Coarse bronchial rales. This depends, of course, on the degree of bronchial involvement. (4) The cervical nodes are usually enlarged.

Laboratory findings: The blood picture is usually that of a mild secondary anemia with slight increase in the white blood count. The eosniophiles are occasionally increased, particularly in chronic cases. Smear from the nasal mucosa usually shows a large number of eosinophetes.

The study of this group is that of any respiratory allergic problem. The carefully pursued history will usually give a definite suspicion or lead, (i. e. attacks follow the eating of certain foods or exposure to certain animated dangers or exposure to dust).

Children under 6 yrs. of age do not lend themselves to direct skin testing to a sufficient number of allergens to justify reliance on this method. As a result, passive transfers are usually resorted to. Ten cc. of blood is drawn into a dry centrifuge tube and is allowed to clot. After the clot has retracted, the blood is centriferged and the supernatant fluid is used to condition sensitized areas on the donor. The father is used whenever possible. .05 cc.

of the serum is injected interdermally in approximately one hundred sites on the back. Twenty-four hours later the individual antigens are tested in these areas. All positive reactors are tested back on the patient. Only those allergens which can be confirmed on the allergic patient are considered.

Positive foods are eliminated, all positive inhalents are removed from the patients environment, when possible. Routine immunization is then carried out using such remaining allergens as cannot be eliminated.

Cultures are made from the nasal mucosa and pharynx. The cultures are grown on blood agar and the colonies picked and these are subcultured. After a suitable growth the bacteria are suspended in saline and heat killed in a water bath at 56° centigrade. The patient is now tested interdermally with these autogenous vaccines. Positive reactors are used for immunization.

The most frequent cause of respiratory allergy in children below 14 years. of age can be listed in order of importance as follows: (1) Bacteria—the usual nasal flora (M. catarrhalis Pharyngus siccus, Staphylocaccus aureus and albus, and Streptococcus viridans), (2) inhalants —feathers and dust, (3) foods — wheat, chocolate, eggs and milk.

All the supportive and up building methods are important, of course, particulary vitamins A and D. Vitamin C has been greatly publicised in the lay press as well as in the medical journals. It is probably an adjunct to treatment when given in large doses.

Tonsil and adenoid tissue when infected or when hypertrophied to such an extent that it interferes with areation and drainage of the para-nasal sinuses and nose, should be removed in all cases.

Case No. 1.

Master J. C., 12 years of age, was seen 10-18-40. Since babyhood this child had been annoyed by chronic nasal obstruction. During the twelve months before examination he had had several acute attacks of respiratory difficulty characterized by tightness in his chest with coughing and wheezing. Respiratory symptoms came at all seasons but were more severe in winter.

The family history was relavant in that a paternal uncle has asthma and his maternal grandmother has chronic bronchitis.

The boy had malaria at eight years of age. A tonsillectomy and adenoidectomy were done at six years and the adenoids were again removed at eight years of age.

On examination the temperature, pulse, and respiration were normal. Weight 82 pounds. The skin was negative. There was marked pallow and swelling of the turbinates and there was a watery nasal discharge. The tonsils were absent, however, there was a marked increase in the retro-pharynegeal lymphoid tissue. The lungs were clear. Remainder of examination was essentially normal.

Laboratory: Hemoglobin 76%. Urine negative.

He was tested to a wide group of allergens. The significant reactions were: dust, feathers, rose, golden rod, coffee, oranges and oats.

Treatment consisted in rigid avoidance of the positive foods. Dilution of dust, autogeous vaccine and pollen were given to be administered by his physician twice a week.

Examination at the end of one month showed turbinate edema reduced; parents reported much symptomatic improvement.

Last seen 11-10-43, weight 120 pounds, (original weight 82 pounds) no further symptoms.

Case No. 2.

Master B. M., age eight years. Seen first 6-5-40. Beginning at age two years this child developed a stuffy nose. This was more severe during the winter but was present to some degree at all seasons. At age five years he began to have attacks of wheez ing. These attacks came on with respiratory infections. The mother suspected that milk, eggs, and chocolate caused trouble and these were avoided. He had broncho-pneumonia at ages 4 yrs., 6 yrs., and 7 yrs. Bilateral otitis media, occurred at age 4 yrs.

On examination he was pale and pasty in appearance. The nasal turbinates were edematous and pale. There was an increased amount of retro-pharynged lymphoid tissue. The lungs were clear except for coarse rales over the main bronchi on cough.

Laboratory findings: Hemoglobin 72%, urine negative. Differential PMN 45%, E. 7%, B-O, Mon.-2, L. L.-2, S. L.-44. Total WBC 10.000.

Testing was done by passive transfer with reactions: Dust ++, corn ++++, rice ++++, lima beans ++++, spinach ++++, lamb ++, banana ++++, ragweed ++++, eggs +, Autogeuons vaccine gave ++++ reaction.

Positive foods were eliminated and donsensitizing with dust, and autogenous vaccine was carried out. He has been followed now for about three years and for the past year he has been almost symptom free. His weight has increased from 60 to 72 lbs.

In discussing this respiratory group there are two points to be emphasized: (1) In children who keep a chronic respiratory infec-

tion for a time longer than would be expected from such an illness, and particularly if these children have allergic parents, an allergic etiology should be considered. (2) Allergic condition which in childhood may be of minor consequence and only annoying, may lead to chronic states with great disability in maturity. It is quite likely that chronic asthma and certain forms of deafness can be entirely side stepped if these allergic children can be properly treated.

The second group is referred to as the gastro-intestinal. Here the symptoms are less definite but are no more the less important.

The history is that of a child with an allergic family history who, on ingestion of certain foods, will within a few minutes to a few hours complain of generalized abdominal pain often accompanied by either nausea or vomiting or both. The important part of the history is that the child is a repeater. That is, the same thing occurs over and over. Observant parents can designate the exact food after a period.

The physical findings are not abnormal. The laboratory findings will show nothing typical.

The differential diagnosis will include acute gastro-enteritis due to food poisoning and acute appendicitis.

The third group, or the skin manifestations, must have at the head of the group infantile eczema in its various grades of severity. The less important skin reaction is the urticarial wheal.

There is considerable controversy concerning the cause of infantile eczema. The dermatologist will discount the allergic etiology and the allergist will sponsor the allergic background. It is best to look on the condition with an open mind.

Severe infantile eczemas deserve allergic studies with tests to the common foods. It is usually not practical to do the tests on the patient and passive transfers make the study more flexible.

The procedure is carried out as was described for the respiratory group. In this study, however, only contacts and foods are tested. Positive allergens are removed from the baby's environment and the positive foods from the lactating mother's diet.

Local care of the eczematous skin is of prime importance and useful preparation and their indications are listed as applied in the following case:

Baby J. M.

Child seen 4-14-41 at age three months. At one month this child had developed a diffuse eczema which had grown progressively more severe. Breast milk had been stopped and Carnation lactic milk tried. No improvement was noted. The family history was negative for allergic disease.

On examination the entire skin except for a small area on the back was involved. The baby was fairly well nourished. Because of the fact that there were no accessable veins, passive transfer could not be done. The skin of the back was used as a test site for the following foods: orange juice — negative; eggs—negative; wheat—negative; cows milk ++++. The baby was put on Sobee (a synthetic milk made from soy beans), and the following local care was instituted.

(1) Rx Liquor of Lead Acetate U. S. P.
Sat. solution of aluminum Acetate (Burrows Solution) aa ½ fl. oz./H_2O q. s. ad 6 fl. oz.
Sig. apply locally as long as weeping continues.
Rx For acute redness:
Resorcin
Boric Acid aa 1 drachm
Zinc Oxide ½ drachm
Water q. s. ad. 6 fl. oz.
Sig. Apply locally.
Rx When redness and inflamation has decreased:
Crude coal tar 2 drachm
Mix
Zinc Oxide 4 drachm
Starch 1 oz.
Mix
Vaseline 4 oz.
Mix together and make fine paste.
Sig. Use half strength with vaseline if irritates.
Rx Finally when better:
Resorcin
Bismuth
Zinc Oxide 1½ drachm
Oil of Cade 2 drachm
Petroleum 3 ozs.
Hydrous Wool Fat
Paraffin aa q. s. ad.
Sig. Apply locally.

With this routine the child showed good improvement and when last observed 3-25-42 at 14 months his weight was 26 pounds and the only skin involved was in the folds of the skin at the elbow and knees.

This brings the problem down to headaches and miscellaneous problems. I can recall only two children under 14 yrs. with migraine of

any severity. Child D., seen 7-21-42, complaining of recurring severe unilateral headaches the child was otherwise normal.

On examination the child was poorly developed and nourished. There was pallor of the muccous membrane. The tonsils and adenoids had been removed and the pharynx and nose were normal. Laboratory findings showed: Hemoglobin 74%, and urine negative.

Since the child was 11 yrs. of age, testing was done directly. She showed the following positive reactions: Wheat +++, oats +++, buckwheat +++, coffee ++, and chocolate ++.

The treatment consisted of omitting her positive foods and insisting that the mother increase the child's caloric intake using the known negative foods. Her rapid improvement was interrupted by two attacks of migraine for which the cause could not be found.

Migraine may or may not be allergic in origin, however, in cases which have not responded to other types of approach the patient should be given the advantage of thorough allergic investigation.

There are a number of other diseases of ill defined etiology which are ascribed by some to the allergic constitution but will be omitted from this paper.

In no branch of medicine is the laboratory so essential as in allergy. A great amount of technical skill and industry is expended before the patient under consideration can be studied. The preparation of extracts for diagnosis and treatment will be touched on at this point.

Dry pollen is gathered in season and can be purchased from a number of reliable companies. The pollen is defatted with water free ether, dried and then extracted with an aqueous alkaline saline solution. The resulting solution is diluted, standardized and is ready for use.

Food extracts are prepared along the same line except that a glcero saline extracting fluid is used.

Individual dust extracts are prepared from material collected in the patients home. Defatting and extracting is done as in the case of pollens. All extracts are sterilized by filtration through either Berkfeld or Sietz filters.

In conclusion:

1. Allergic states are immunologic phenomenon resulting from the formation of sensitizing anti-bodies.

2. Allergic conditions in children lend themselves well to routine investigation and are amiable to treatment.

3. Control of allergic states in childhood will prevent secondary morphologic changes in adulthood.

Dr. L. F. Robinson has recently moved to Olanta where he is engaged in general practice.

Captain Hugh Cathcart, formerly of Charleston and now of Walter Reed Hospital, Washington, D. C., was recently married.

Dr. Robert M. Dacus, Jr., formerly of Greenville, has been promoted to the rank of captain and is now located at Moore General Hospital, Swannanoa, N. C.

Dr. O. E. Horger has been discharged from the Army because of a serious illness. His friends will be glad to welcome him back in practice in Greenville, and are grateful that he is recovering so nicely.

Captain Paul Hearn was a visitor at his home in Greenville recently. He is now located at Panama City.

Dr. and Mrs. William Norville of Whitmire are receiving congratulations upon the birth of a daughter, Phoebe.

Captain James T. Green, formerly of Columbia, has been promoted to the rank of Major. He is located at the Columbia Army Air Field in Mississippi.

Captain William S. Hall, formerly of Columbia, is now located at the Station Hospital, Camp Murphy, Florida. He is in charge of the neuropsychiatric section.

A Review of and Case Report of Rocky Mountain Spotted Fever

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Since Rocky Mountain Spotted Fever is so uncommon in South Carolina, only twenty-one cases having been reported, we think we might take this opportunity to re-introduce ourselves to the pertinent factors involved in it.

Rocky Mountain Spotted Fever, which we formerly considered restricted to the Western section (more particularly the Rocky Mountain region) of the United States, has now occurred in North and South Carolina, Georgia, Tennessee and the majority of the other Eastern states. The so-called Eastern variety of the Rocky Mountain Spotted Fever, however, does not differ essentially from the Western one.

The Eastern form of the disease is transmitted by the dog tick (Dermacentor Variabilis) instead of the wood tick (Dermacentor Andersoni), the vector of the Western type. Presumably transmission may occur not only by the bite of the tick but also by mashing the tick on the skin or by handling infected ticks while picking them off an animal. The tick has a four-stage life-cycle: the egg, the larva, the nymph, and the adult. Hosts of the adult ticks are dogs and other domestic animals, less commonly deer, squirrels, raccoons, opossums, foxes, etc. The adults are able to survive 2-4 years even when starved. The larva, the nymph, and both the adult male and female ticks have been shown to be vectors. The adult ticks receive their infection from an infected host. In addition, the virus apparently can be transmitted from an infected female to an infected male (and vice versa) through copulation. We might even term this disease a "Venereal Disease for Ticks." The adult female may pass the infection through the ovum to her progeny which again are capable of transmitting it when they in turn reach the adult stage. The sins of the fathers seem to be visited to the sons even to the sixth generation, for the above has been shown to be repeated even to the sixth generation of ticks.

Rocky Mountain Spotted Fever is not communicable from man. Therefore we say it is purely infectious but not contagious. This is one instance where man does not have to give in order to receive since he plays no part in perpetrating the virus in nature.

One bitten by a tick is usually conscious of the bite from the irritating sensation or from seeing the tick and having to disengage it from the skin. The latter is especially true of the female ticks for like most females they appear hard to get but once gotten are harder to lose. On the other hand, the male tick may drop off after partial engorgement without the patient's being aware of his presence.

After an incubation period averaging seven days from the time of being bitten by an infected tick, the individual usually experiences a prodromal period of symptoms such as chilly sensations, malaise, fever and nausea. These symptoms usually simulate those of the corresponding stage of most infectious diseases. A macular, roseolar eruption on the face, neck and upper thorax or on the ankles and wrists may appear as early as the second day. An initial chill may usher in the disease. Accompanying this initial chill are bronchitis with coarse rales, frontal headache, severe backache, epistaxis, and generalized soreness of the muscles and bones as in dengue. The conjunctiva has the injected appearance as in measles while the tongue has the furry, whitish coating of typhoid. The temperature continues high (102-104° F.), the fever usually lasting three

weeks (in contrast to the two weeks in typhus). The pulse is fast and out of proportion to the temperature, usually remaining above 100 per minute (again a contrast to the usual case of typhus). In the meantime, the rash will have become generalized (involving the face in contrast to typhus) and takes on a bluish-purple or turkey-egg appearance. The rash may become confluent and areas such as the scrotum, toes, fingers, and elbows may become gangrenous, due to an obstruction of the smaller blood vessels secondary to an endothelial proliferation. Irritability and hyperesthesia of the skin are common and are due to infiltration of the peripheral nerves. Other nervous system manifestations such as carphology, mumbling, and even delirium are common. The severity of these latter symptoms, more than any other one thing, suggest the outcome of the case. The prognosis is grave in those cases with marked delirium. The mortality of the Eastern form of the disease is about 24%.

The treatment of Rocky Mountain Spotted Fever reminds us very much of the treatment of a cold. Without the sulfonamides and what not, the fever and severe symptoms seem to last three weeks but with these drugs, they last only 21 days. The effective treatment may be summed-up as follows; treating the symptoms and providing supportive measures. Unquestionably some cardiac and circulatory stimulants such as digitalis, coramine, etc., are indicated. Barbiturates supplemented by an occasional opiate are necessary to ameliorate the nervous system manifestations. As in most febrile diseases, fluids should be given freely. Frequent sponge baths and alcohol rubs help make the patient more comfortable. Baker recommends the intravenous administration of 3 gm. neoarsphenamine dissolved in 10 c. c. aqueous solution of metaphen every three days for three or four treatments. In his hands, this therapy has proved efficacious.

A vaccine, prepared from a virulent strain of tick virus by grinding adult infected ticks, is distributed free from the Hamilton Laboratory (Hamilton, Montana) to physicians who request it. This vaccine, of course, has no particular therapeutic value. However, it has been shown to be of unquestionable value as a prophylactic agent. The vaccine is given in two doses of 2 c. c. each 5 days apart. Even though the vaccinated persons should become infected, statistics show that the mortality is less in the vaccinated group than in unvaccinated groups.

Like a number of the virus diseases, one attack supposedly confers life-long immunity. Second infections have been reported but not verified.

Report of Case

A white man aged 39 was first seen by us on 3-6-43, at which time he had a temperature of 104.5° F.; a pulse rate of 120; a macular-roseolar rash on his face, wrists, and ankles; and a rather dry, coated tongue. He stated that his first symptoms were noted on 3-1-43 with a feeling of malaise and feverishness followed that night by chills and sweats. He was in Alabama at the time but with the onset of his illness, he started for his home in Abbeville. On 3-4-43 he arrived in Atlanta with a temperature of 104° F. and was forced to spend the night at a hotel where he continued to have chills and sweats and was so restless that he was unable to sleep. We saw him immediately after his arrival in Abbeville on 3-6-43.

Physical examination revealed only the findings listed above. Urinalysis showed the usual picture of such a febrile state. Blood smears were negative and only moderate leucocytosis (in the neighborhood of 10,000 W. B. C.) was found. We obtained blood (3-6-43) for the agglutination reactions and made a tentative diagnosis of endemic typhus in spite of a negative history of any insect infestation or insect bite. (The blood was reported negative for typhus, typhoid, undulant, and Rocky Mountain spotted fever.)

In spite of sulfonamide therapy, antipyretics, and supportive measures, the patient continued to get worse. His temperature varied from 100° to 101° in the mornings to 104° to 105.5° in the afternoons and evenings. He continued to sweat so profusely that it was necessary to change the bed linen four times during the night. By 3-10-43 the rash, now purplish in appearance, had become generalized and was confluent on the neck and lower abdomen. The temperature remained high, the patient became more restless with mumbling, carphology, and mild delirium evident, and apparently went into shock for his blood pressure dropped to 67 (systolic). These nervous system manifestations increased in intensity and remained evident through the third week of the disease.

On 3-15-43 a second blood specimen was obtained and the agglutination reactions of Weil-Felix and Widal reported negative. By 3-17-43 the heart sounds were weak and the pulse was irregular. The pa-

tient mumbled continually and grasped wildly at every object in reach. His pupils were dilated in spite of the fact that he had received opiates. It was evident that his vision was poor and his judgment worse. A mild icteric tint to the conjunctiva and skin was noted as well as evidence of bile in the urine. The areas in which the rash had become confluent now showed beginning necrosis. On 3-18-43 a third blood specimen was obtained and a positive Weil-Felix was reported.

A consultant epidemiologist* was called in and a diagnosis of Rocky Mountain spotted fever was made in view of the continued rapid pulse, three weeks continued high fever, rash on face as well as elsewhere on body, necrotic areas where the rash was confluent, severe nervous system manifestations, and a delayed positive Weil-Felix reaction.

*Dr. G. E. McDaniel, Consultant Epidemiologist for the State of South Carolina.

By 3-23-43 the rash, except for the necrotic areas, had begun to subside, the temperature remained below 100 F., and the patient was rational and on the way to recovery.

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Observations in Shock Therapy

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Shock therapy, for the relief of mental illness, chiefly concerns the psychiatrist but presents many points of interest to the general practitioner, since the latter is often called upon to help decide what should be done in a given case.

The history of this method exhibits a rapid evolution since the introduction of insulin shock less than ten years ago. When Sakel and his colleagues first discovered that excessive doses of insulin and the resultant coma proved beneficial in certain mental cases, a new hope was given to the thousands of sufferers themselves and their millions of relatives. The insulin method, however, while still in use in some institutions, soon proved to possess certain drawbacks. In the first place insulin shock therapy is especially time-consuming. The injection is given in the early morning and often two hours or more elapse before the patient goes into coma. He must then be allowed to remain in coma for another two hours after which he is given glucose, usually in the form of fruit juice by gavage, or by the intravenous method. Additional time must elapse before a normal balance in his blood chemistry is restored. In frequent instances the coma continues for a considerable period after the introduction of glucose. Sometimes the coma continues for many hours and great difficulty is experienced in reviving the patient. From the above it will be understood that this method requires the continual presence of a physician and one or more nurses for the greater part of a working day with each group of patients being treated.

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It was not long after the introduction of insulin therapy that metrazol began to be used. Metrazol, in sufficient qualities, is a convulsant. After the introduction of the drug the patient enters what in every way resembles a typical grand mal attack. Within about sixty seconds after the needle is withdrawn the facial muscles begin to twitch, the eyes roll back, there is a sharp cry, the patient is seized with a tetanic spasm which lasts for a few seconds and the clonic movements begin, the whole convulsion lasting from thirty to sixty seconds and terminating with the resumption

of respiration; then ensues a stuporous or somnolent state lasting for twenty or thirty minutes. The patient on awakening feels disoriented and confused. Results from this method proved to be as good as or better than the older insulin method.

Metrazol had the decided advantage of being more easily controlled, the entire treatment for each patient taking little more than one-half hour.

Like insulin, however, metrazol is a drug and once introduced cannot be withdrawn. The final development of shock therapy is the electric shock method which has largely superceded both of the older forms.

By means of an ingenious apparatus a controlled current is passed through the patient's brain, thereby inducing a convulsion similiar to that induced by metrazol. The strength and amount of the current varies but the average for a healthy adult is about 120 volts for 1/10 second. The voltage and the time can be accurately fixed. Automatic cut-off insures against more voltage or time than is desired. The resistance, however, is a variable factor which can be controlled only in part. Every individual varies as to resistance, ranging from 300 to several thousand ohms. Resistance even varies considerably in the same individual on different days.

By means of a contact paste, whereby the electrodes give better connection with the skin, the resistance can be decreased and varied to a certain extent. With an average resistance of six or seven hundred ohms and a voltage of around 120, the current will reach from 600 to 750 milliamperes. If this combination does not produce the desired convulsion, additional voltage or additional time can be allowed. Caution demands that relatively low voltages be given during the first two or three treatments, until the patient's threshold can be determined. This is why petit mal rather than grand mal convulsions are often produced in the early treatments of a course. Obviously grand mal convulsions are not to be recommended for elderly individuals or individuals with defective myocardial structure, hypertension or arteriosclerosis.

The following series of cases illustrates an average cross section of patients given shock therapy and the results obtained. In all except one or two cases the physical condition of the patient was excellent as will be seen. Shock treatment was given in an attempt to relieve various mental disorders and in some of these instances it was given at the request of the family although little hope of improvement was held out.

Obviously shock therapy does not in any way reconstruct a personality, but taken in selected cases, it terminates the distressing symptoms of patients in acute psychosis. It is of greatest advantage in the various phases of the Manic Depressive Psychosis and in Involution Melancholia. In Dementia Praecox, the Catatonic Type is often helped but the Hebephrenic, although nearly always responding well for a time, generally relapses. Like every other treatment known to medicine or surgery, the shock method gives the best results in early cases. Nevertheless the depressions, even those of long duration, are often dramatically relieved.

The following sample case histories are stripped to their base essentials in order to conserve space. A study of the subjoined table summarizes the entire series, the treatment given and the results obtained.

CASE 25. V. B.—Teacher—White female 62 years of age. Well developed, well nourished. B. P. 140/80. Physical examination essentially negative.

Mental summary: Patient's attack began in August, 1940 and she had spent four and one-half months in another institution prior to admission in December of that year. Her symptoms consisted of extreme depression with delusions of guilt and suicidal tendencies. She thought that her family was about to starve to death that she, herself, would be turned out without a home and allowed to "die on the grass." She would moan constantly "I had a good home and a good job but I gave them up, see where I am now."

DIAGNOSIS: Mental picture as a whole was typical of Involution Melancholia which diagnosis was made.

Shock therapy was postponed for many months due to opposition of her family who were afraid of the danger and responsibility involved. Consent being finally obtained she

was given a total of twenty convulsions, fifteen of which were grand mal and five petit mal. The convulsions lasted from fifteen to sixty seconds. Improvement began before the middle of the treatment. A gradual awakening of interest in her environment was apparent quite early in the course. She was soon eating and sleeping well, writing to relatives and acting in a normal manner. One by one her delusions disappeared and she emerged from her long and profound depression. She complained of transitory memory defects but showed good insight and appeared perfectly happy. Follow-up investigation indicated that after leaving the sanitarium she had made an excellent adjustment and has now returned to her old occupation of teaching school.

CASE 27. H. L.—Student—White female, 19 years of age. Small stature. Well developed. Well nourished. Physical examination essentially negative. B. P. 105/80.

Mental summary: Sudden onset while in college. Patient was petulant, childish and emotionally unstable on admission. She was markedly disoriented and laughed and cried. In speech she reverted to an infantile, petulant language evidently intended to impress others. There was a slight tendency toward flight of ideas at times. In the main she was fairly agreeable and cooperative although it was with some difficulty that she could be persuaded to take nourishment.

DIAGNOSIS: Manic Depressive. Manic Type.

A total number of twenty treatments were given, achieving nineteen grand mal convulsions and one unsuccessful attempt to produce a convulsion. She improved rapidly after about the sixth treatment and from that time on her cooperation was excellent. She began to take an interest in her surroundings and seemed to enjoy the activities about the sanitarium. Frequent visits of relatives did not in any way upset her. She adjusted nicely in every respect. The week after treatment terminated she was allowed to go home and has been doing splendidly since her dismissal. In this case treatment was begun within a week after the onset and unquestionably shortened the duration by several months.

CASE 10. M. C. J.—Blast furnace worker—White male about 30 years of age. Well developed but markedly undernourished on admission. Weight 117 pounds at beginning of treatment; 143 pounds at end of treatment. Physical examination essentially negative. B. P. 110/90.

Mental summary: On admission patient was extremely agitated and expressed delusions showing a strong religious trend. He kept repeating "I've got to get things straight, this not right; I don't understand and I've got to fix things up right." He was terrified of his environment and seemed to fear that he would be hurt or punished. During this period he showed marked excitement and was very talkative. Frequent packs and continuous baths were required to produce even temporary calm. His appetite was extremely poor and much of the time forced feeding was required. Treatment began about one month after onset.

DIAGNOSIS: Manic Depressive. Manic Type.

He was given a total of twenty treatments and achieved twenty grand mal convulsions lasting from thirty to forty-nine seconds. Improvement began about the middle of the course and continued without interruption. His attitude changed from violent antagonism to complete cooperation; as his mental condition improved he began to eat voluntarily and take interest in his surroundings. He expressed appreciation and developed good insight. He was dismissed as markedly improved.

CASE 9. S. W. A.—Broker—White male apparently 40 years of age. Well developed well nourished. Weight 167 pounds. B. P. 140/100. Physical examination essentially negative with the exception of high diastolic pressure.

Mental summary: Marked delusions, hallucinations and change of personality. Hospitalization for past ten years. Marked change of personality and history of previous treatment with insulin therapy. Patient talked to voices continually and the mental picture was that of an old hospital case of long standing.

DIAGNOSIS: Dementia Precox. Hebephrenic Type.

He was given a total number of twenty treatments and achieved twenty grand mal convulsions lasting from thirty-two to fifty

No.	Sex	Age	B. P.	Physical Condition	Occupation	Diagnosis	Convulsions		Result	Remarks
							Petit	Grand		
1	Male	30	120/80	Fair	Farmer	D. P. Cat.	6	12	Improved	Some residual symptoms remained
2	Male	41	110/65	Good	Pharmacist	M. D. Dep.	7	13	Recovered	Complete social adjustment
3	Male	43	130/80	Good	Salesman	Undiagnosed	4	14	Recovered	Complete social adjustment
4	Male	32	110/70	Fair	Textile	D. P. Par.	3	25	Unimproved	Died following relapse
5	Male	40	165/80	Fair	Waiter	M. D. Dep.	1	6	Unimproved	Treatment incomplete
6	Male	23	120/80	Good	Salesman	M. D. Mixed	5	25	Recovered	Satisfactory social adjustment
7	Male	33	125/80	Fair	Farmer	M. D. Dep.	0	20	Recovered	Satisfactory social adjustment
8	Male	20	120/90	Fair	Textile	M. D. Dep.	0	24	Recovered	Satisfactory social adjustment
9	Male	40	140/100	Good	Broker	D. P. Heb.	0	20	Unimproved	Still in institution
10	Male	41	110/90	Fair	Furnace	M. D. Manic.	0	20	Recovered	Satisfactory social adjustment
11	Male	25	105/80	Poor	Farmer	M. D. Dep.	4	24	Improved	Still in institution
12	Female	53	150/90	Poor	Housewife	Inv. Mel.	12	4	Recovered	Complete social adjustment
13	Female	53	110/85	Poor	Merchant	Inv. Mel.	6	12	Recovered	Complete social adjustment
14	Female	23	125/75	Good	Stenographer	M. D. Manic.	6	12	Improved	Has had two relapses
15	Female	52	135/85	Good	Housekeeper	D. P. Cat.	3	17	Recovered	Complete social adjustment
16	Female	70	175/90	Fair	Teacher	S. P. Dep.	20	0	Unimproved	Still in institution
17	Female	55	160/90	Good	Operative	D. P. Heb.	4	25	Unimproved	Transferred to another institution
18	Male	30	100/80	Fair	Merchant	C. A. (M. D.)	2	18	Improved	Fair social adjustment
19	Female	40	100/60	Good	Secretary	M. D. Dep.	0	15	Improved	Gradual return to social adjustment
20	Female	45	120/85	Fair	Teacher	Inv. Mel.	2	23	Improved	Gradual return to social adjustment
21	Female	40	120/80	Good	Housewife	Inv. Mel.	2	8	Recovered	Complete social adjustment
22	Female	14	110/80	Fair	Student	D. P. Heb.	1	19	Unimproved	Temporary improvement followed by relapse
23	Female	18	110/90	Good	Student	D. P. Cat.	1	18	Unimproved	Went home but is not adjusting
24	Female	18	95/75	Good	Student	D. P. Cat.	0	11	Recovered	Complete social adjustment
25	Female	62	140/80	Good	Teacher	Inv. Mel.	5	15	Recovered	Complete social adjustment
26	Female	36	135/75	Good	Housewife	M. D. Dep.	1	31	Improved	Transferred to another institution
27	Female	19	105/80	Good	Student	M. D. Manic.	1	19	Recovered	Complete social adjustment
28	Female	44	120/75	Good	Housewife	Inv. Mel.	1	6	Recovered	Complete social adjustment
29	Female	52	135/95	Poor	Housewife	Inv. Mel.	1	19	Improved	Fair social adjustment
30	Female	50	140/100	Good	Housewife	M. D. Manic.	1	19	Improved	Fair social adjustment
31	Female	56	150/80	Fair	Housewife	Inv. Mel.	1	10	Improved	Fair adjustment; no insight

Legend

M. D. Manic—Manic Depressive. Manic Type
M. D. Dep.—Manic Depressive, Depressed Type.
D. P. Heb.—Dementia Precox, Hebephrenic Type.
D. P. Cat.—Dementia Precox, Catatonic Type.
Inv. Mel.—Involution Melancholia.
D. P. Par.—Dementia Precox, Paranoid Type.
S. P. Dep.—Senile Psychosis, Depressed Type.
C. A. (M. D.)—Chronic Alcoholism, Manic Depressive.

DIAGNOSIS	No. Cases Treated	No. Cases Recovered	No. Cases Improved	No. Cases Unimproved	Percentage Recovered	Percentage Improved	Percentage Unimproved
M. D. All Types	13	6	4	3	46.2	30.7	23.1
Involution Melancholia	8	5	3	0	62.5	37.5	0
Dementia Precox, Catatonic Type	4	2	2	0	50	50	0
Dementia Precox, Other Types	3	0	0	3	0	0	100
Alcoholism, Chronic	1	0	1	0	0	100	0
Senile Psychosis	1	0	0	1	0	0	100
Undiagnosed	1	1	0	0	100	0	0

seconds. His cooperation was erratic throughout the course. At first he cooperated well then showed evidence of impatience and sometimes even of strong physical resistance. Slight improvement took place early in the course. He became much quieter; talked less to voices; behaved in general, in a more rational manner. A complete relapse occurred, however, before the end of the treatment and it was deemed futile to give treatments beyond the usual twenty. He must be considered as unimproved.

CASE 12. G. L. F.—Housewife—White female 53 years of age. Development average, nutrition poor. Weight at beginning of treatment, 98 lbs. At end of treatment 107 lbs. Physical examination essentially negative. B. P. 150/90.

Mental summary: Patient markedly agitated and depressed. Refused food. Tube feeding was required on a number of occasions. She expressed delusions of guilt, was completely despondent and felt that her condition was hopeless. Attack had lasted over four months when treatment was begun.

She was given a total of sixteen treatments and achieved four grand mal and twelve petit mal convulsions lasting from thirty to sixty seconds. Throughout the course she appeared very resistive to grand mal attacks even though relatively high voltage was employed. Improvement occurred after the eighth treatment and was continuous. Due to her excellent insight and the fact that she showed such a marked resistance to the development of convulsions secured it was not deemed necessary to complete the usual treatment. She was dismissed as markedly improved. At the present writing this patient is adjusting beautifully in her normal environment and carrying on, not only in her household duties but a wide range of social activities. She has now been doing this for over a year.

CASE 15. Housekeeper—White female 52 years of age. Well nourished, small stature. Well developed. B. P. 135/85. Physical examination essentially negative.

Mental summary: Onset rapid. On admission patient talked freely and expressed fantastic delusions concerning members of her immediate family. She admitted constant auditory hallucinations; voices of living people which she recognized talked to her from a distance of over a hundred miles. The following day she went into a catatonic state and showing some muscular rigidity, she refused to talk or eat voluntarily.

DIAGNOSIS: Dementia Precox. Catatonic Type.

A total of twenty treatments were given. She achieved seventeen grand mal and three petit mal convulsions lasting from thirty-six to sixty seconds. After the fifth treatment, cooperation was obtained. She was dismissed at the end of the course as markedly improved and follow-up information has revealed that she is doing well and has had no apparent return of her mental trouble.

CONCLUSIONS

It is not possible to draw mathematically accurate conclusions from a series as small as the above, however, the results obtained are commensurate with those reported by the majority of other observers.

Shock treatment, although disappointing in Dementia Precox except the Catatonic type, is of definite value in the various depressions. The best results of all are obtained in Involution Melancholia where complete recovery was achieved in 62.5% of cases and marked

improvement in the other 37.5%. Cases classed as recovered in this series are those which have made a complete social adjustment, carrying on all activities as usual after returning to their homes. Those classed as improved are carrying on modified activities at their homes, or, if still in the institution, are cooperating well and making a good adjustment with pronounced relief of symptoms. Many of those classed as unimproved actually showed at least a temporary improvement or a permanent abatement of some symptoms but were unable to achieve a satisfactory adjustment.

In a high percentage of cases the patient complained during the treatment of transitory lapses of memory. These involved recent events only and, beyond causing a slight annoyance, were of no significance.

Shock therapy appears worth the time, expense and possible risk involved in acute mental disorders. Particularly in those of a depressive nature, the result would appear to justify reasonable expectations of recovery or at least improvement.

Medical Statistics of South Carolina

1. The National Distribution of Living Graduates of the State Medical School.

A. M. LASSEK, M.D., PH.D.

The Author:
Dr. Lassek is Professor of Anatomy at the Medical College of the State of South Carolina. He was graduated from the University of Tennessee Medical School (1936) and also holds the degree of Ph.D. from Northwestern University Medical School. He was born in Eau Claire, Wisconsin.

One of the most important questions in medicine is that of distribution of active medical practitioners. This is especially true in South Carolina which has had a comparatively unfavorable ratio of doctors according to population. The War Emergency, by withdrawing many of our medical men into the services, has created a condition which has currently become acute, particularly in the rural communities. I believe that any consideration of this problem must be on the basis of a long range program because the State of South Carolina, at present, has no jurisdiction over the individuals who are entering the field of medicine. The Army and Navy control the pre-medics, the matriculated medical students, the interns and residents in hospitals and those doctors who have already been called into military service. The only possible method of relieving the communities now short or devoid of practitioners is by re-locating doctors from districts where they are relatively plentiful. This, the War Manpower Board has already considered and it must remain largely or entirely a Federal project. If re-distribution is carried out, it may be that it would be effective only as a temporary measure. Re-located doctors might possibly migrate back to their former locations at the termination of the emergency. It is frequently suggested that an additional medical school or a larger one than now exists is needed in South Carolina. It is likewise advocated by some that students should be subsidized in order to distribute them to needy districts. Before such ideas can be successfully formulated into definite plans, it might be of value to know what is the normal distribution of South Carolina medical graduates. The purpose of the present study is an attempt to determine "where," in the course of years, the living graduates of the Medical College of the State of South Carolina have located and to try to answer the question "why" as much as it is possible. It is hoped that the study will be regarded purely as a statistical report.

Address: Medical College of the State of South Carolina, Charleston, S. C.

MATERIAL AND METHODS

The source of the information is the 1942 American Medical Directory. All the listed names in the forty-eight states of the United

States, the District of Columbia, Alaska, Canal Zone, Hawaii, Philippines and Puerto Rico have been checked for their schools of graduation. By this method, it is possible to determine with a fair degree of accuracy the distribution of South Carolina medical graduates before the present world conflict began. It is believed that the results obtained is representative of a normal distribution of our doctors in peace time under the existing economic system.

RESULTS

In 1942, there were 1,102 living graduates of the Medical College of the State of South Carolina. 950 of these were in private practice, 79 were either interning or holding a residency, 42 were retired, 28 were in the Army or Naval military services and 3 were in Veteran's hospitals.

738 or 67% of all living graduates were located in the State of South Carolina. 682 of these were in private practice, 29 were interns or residents, 21 were retired and 6 were engaged in full-time teaching at the Medical College.

364 of the living medical doctors or 33% were situated outside of the State of South Carolina. 268 of these were in private practice, 50 were interning or holding residencies, 15 were retired, 28 were in the military services and 3 were in Veteran's hospitals. The distribution of these graduates in the various states and territories was as follows: North Carolina, 76; Florida, 40; District of Columbia, 37; Georgia, 32; New York, 24; Alabama, 16; New Jersey, 14; Pennsylvania, 12; Virginia, 11; California, 11; Tennessee, 9; Texas, 7; West Virginia, 7; Illinois, 7; Maryland, 6; Minnesota, 6; Massachusetts, 5; Ohio, 5; Louisiana, 4; Arizona, 3; Kentucky, 3; Mississippi, 3; Michigan, 3; Indiana, 2; Connecticut, 2; Oklahoma, 2; Vermont, 2; Arkansas, 1; Delaware, 1; Nevada, 1; Oregon, 1; Rhode Island, 1; Utah, 1; Washington, 1; Wisconsin, 1; Wyoming, 1; Iowa, 1; Kansas, 1; Missouri, 1; Alaska, 1; Hawaii, 1; and Puerto Rico, 1. The states of Colorado, Idaho, Maine, Montana, Nebraska, New Hampshire, New Mexico, North Dakota and South Dakota had no living graduates of our Medical College.

There were 1,427 registered doctors of medicine located in the State of South Carolina in 1942. Since only 738 or 52% were in attendance at our Medical School, other states have contributed in educating our practitioners. 689 doctors of medicine or 48% located in South Carolina were educated in medical schools outside of the state. 26 of these were retired and 3 were interning. The states which have contributed in this medical education are the following: Georgia, 156; Maryland, 120; Tennessee, 104; Pennsylvania, 57; Virginia, 52, New York, 34; North Carolina, 29; District of Columbia, 21; Louisiana, 19; Illinois, 16; Kentucky, 15; Massachussetts, 13; Ohio, 9; Missouri, 6; Michigan, 5; Texas, 5; Indiana, 4; Nebraska, 4; Oklahoma, 2; Kansas, 2; Connecticut, 2; Oregon, 1; Colorado, 1; Vermont, 1; Minnesota, 1; California, 1 and foreign countries, 4.

COMMENTS

In 1942, 1,427 doctors of medicine were registered in the State of South Carolina which then had a population of about 1,899,804. This gives a ratio of 1:1,331. However, about 85 of these doctors were not in active practice which reduces the number to 1,342. The ratio of practicing physicians to the population was, therefore, 1:1,416 which was one of the lowest in the United States.

If all the living 1,102 graduates of our medical college were practicing in the state, the ratio of doctors to population would be 1:1,724.

There has been a migration of graduates of our medical college to other states and there has been an immigration of out-of-state graduates to South Carolina. In spite of the fact that our school accepts only South Carolina pre-medic students, one-third of all our graduates were located in other regions in 1942. Since some of these were taking post-graduate work in the form of interships and residencies, it is possible that a proportion would have, in the natural course of events, returned to South Carolina. A minimum migration value would be 25%. In contrast, almost half (48%) of our 1,427 South Carolina medical doctors were educated in other states. Some of these graduates were undoubtedly natives of South Carolina who have returned to their home state. Since medical education is costly, it is evident

that South Carolina tax-payers are indebted to a number of medical schools in other states for the training of almost half of their doctors of medicine.

At first glance, it might appear that this statistical evidence is an indication that South Carolina needs either to increase the number of students enrolled at her state medical school or to build another such institution. This would solve the problem only if we could be assured that all graduated students would remain within the state. It would be costly to educate large numbers of medical men and have them migrate elsewhere. Other states would benefit by getting this professional service free of cost and at a time when the doctors would be at the beginning of their productive lives. Further, it can be shown that there is no strong correlation between the number of medical schools in a state, and thus the number of medical graduates, and the per capita ratio of doctors. This can be done in two ways. First, the twelve states in the union which now have no accepted medical schools (Arizona, Delaware, Florida, Idaho, Maine, Montana, New Jersey, New Mexico, Nevada, Rhode Island, Washington and Wyoming) have an average ratio of 1:943. By way of contrast, in 1942, the states of Georgia, Louisiana, South Carolina, Tennessee and Virginia, possessing nine accepted medical schools, graduated 665 doctors of medicine yet the average ratio of doctors to the population was 1:1,050. As can be seen, this is a more unfavorable proportion than that of the states having no medical colleges. It would appear, therefore, that the number of medical schools in a state does not influence, to any great extent, the distribution of doctors in that state.

It may be that the most important factor in the distribution of doctors is an economic one. Since the founding of this country, our democratic system has allowed each doctor the right to choose his own location to follow his profession. The decision as to where to locate is an important one. Even though a state may bear part of the expenses, it is estimated by some that it personally costs in the vicinity of $20,000 for a medical education. An individual may spend twenty-five to thirty years of his life before getting any income from this investment. It may be more than just a coincidence that the states which have the poorest ratio of doctors according to the population also, on the whole, have the lowest income payments per capita. For example, the southeastern states of Alabama, Arkansas, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee had an average income per capita in 1942 of $262 and a ratio of doctors to the population of 1:1,193. In contrast, the eight states of California, Colorado, Connecticut, Delaware, Maryland, Massachusetts, Nevada and New York had a per capita income of $728 and the favorable ratio of 1:628 in doctor distribution. Closely associated with this may be the question of hospitals and clinical facilities. In a message to the 78th Congress, the President of the United States stated that areas with inadequate hospital and clinical facilities do not attract the more progressive or younger physicians (Document No. 128). This statement was based on a mass of accumulated evidence by trained statiticians and sociologists.

One program, which, if fulfilled, may affect the distribution of doctors in the State of South Carolina in the post-war period is that of the federal government. Among other things, they have recently formulated plans (Document No. 128) to assure an adequate and well distributed supply of physicians, dentists, nurses and other medical personnel to all our people. They state that this is being done with the view that our people represent our most valuable national resource.

CONCLUSIONS

1. There were 1,102 living graduates of the Medical College of the State of South Carolina in 1942.

2. 738 or 67% were located in the State of South Carolina.

3. 364 or 33% were registered in regions outside of the state. At least 25% represent doctors who had permanently migrated from South Carolina.

4. Our state is indebted to medical schools of other states for the education of almost half our doctors.

5. It is believed that the number of medical schools in the state and thus the number of

graduates does not necessarily influence the distribution of doctors.

6. The most important factor in the distribution of medical doctors in South Carolina may be an economic one.

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National Resources Development Report for 1943, House Document No. 128, U. S. Govt. Printing Office, Washington, D. C., Jan., 1943.

NEWS ITEMS

Lieutenant Colonel M. R. Mobley recently spent a week in Florence convalescing from an attack of virus pneumonia.

Lieutenants J. A. Norton, Jr. and E. R. Norton, twin sons of Dr. and Mrs. J. A. Norton of Conway, are reported missing in action in the European area since May 18.

Dr. Thos. A. Pitts, Dr. William Weston, Sr., Dr. F. E. Zemp, and Dr. I. J. Mikell of Columbia, and Dr. Joe Cannon of Charleston attended the meeting of the House of Delegates of the American Medical Association in Chicago. Dr. J. M. Davis, formerly of Columbia, but now serving as Major in the U. S. Army also attended this meeting.

Dr. J. M. Davis, Major U. S. Army, recently spent a short time in Columbia.

Dr. Carl Sweatman, Capt. in U. S. Army, stationed at Belleville, Ill., was a recent visitor in Columbia. Mrs. Sweatman and son Alden accompanied him when he returned to Belleville last week.

Dr. C. M. Lide, Lieutenant-Commander U. S. Navy, was recently ordered to sea duty. He spent some time recently in Columbia visiting friends and relatives. Mrs. Lide and their three daughters are at their home in Columbia, 3406 Coleman Street.

Chester seems to have a monopoly of Presidents-Elect. Dr. W. R. Wallace is President-Elect of the S. C. Medical Association and Dr. V. P. Patterson is President-Elect of the S. C. Hospital Association.

Lieut. Colonel Gottfried W. Spoerry, director of infantry units of the Citadel Cadet Corps, was ordered to command a medical unit of the army specialized training activated at the Medical College of the State of South Carolina. A unit in the College of Charleston for pre-medical students was also under consideration. .

The Southern Medical Association will hold its annual meeting in Cincinnatti, Nov. 16, 17 and 18, according to an announcement made by the council of that association.

DEATH

Dr. John Vernon Eaves, 75, died in his office on June 7. A graduate of Chattanooga Medical College (1897), he had practiced in Gaffney for many years. He is survived by one son and one daughter.

THE JOURNAL
OF THE
South Carolina Medical Association

EDITOR

Julian P. Price ---------- Florence, S. C.

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Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Original manuscripts, subject to approval by the Editor and the Editorial Board, are desired for publication in the Journal. They should be typewritten, double spaced, on 8½ x 11 paper. References should be complete, and only such as relate directly to statements quoted in the paper. Illustrations will be used as funds permit, or as authors are willing to bear the necessary increase in cost. Short original articles are preferred to long reviews.

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JULY, 1943

DUE HONORS

In this issue of the Journal, we take delight in paying tribute to four of our outstanding members; A. Earle Boozer, Frank H. McLeod, Robert S. Cathcart, and John van de Erve. Each in his own field and in his own way has served his profession well. Each has, in addition to his professional work, left his impress on the life of this state. Each, in the highest sense of the word, has been a real physician.

As Dr. Boozer gives up his great work with the Board of Medical Examiners, as Dr. McLeod comes out of his retirement occasionally to walk through the corridors of the institution which bears his name and in so doing sees the bust recently unveiled, as Dr. Cathcart brings to an end his long and loyal service to the Medical College as head of the department of surgery, as Dr. John van de Erve passes on to more youthful hands the directing of the department of physiology at the Medical College, we want them to know that those of us who are younger are thankful for the work which they have done and the lives which they have lived. We want them to know that we are proud of them for what they have accomplished, that we love them for what they are.

TIME TO CHOOSE

To us it appears obvious that the medical profession has come to a crossroads and that a choice must be made. Many may disagree with us. Some will say that we are trying to frighten physicians with bogey-men, that medical practice as we know it is too deeply entrenched to be changed by passing fancy of this or that governmental or social-minded group. Others will contend there is no choice, that there is only one road and that is the road of so-called socialized medicine which a paternalistic and bureaucratic government is now ready to open to us. In spite of these contentions, we are still convinced that the choice must be made.

One road which lies ahead is the one which the profession has followed—and rather successfully—through the years. It might be termed the road of Ultra-Caution. As individuals and as a group, physicians have learned to study a drug well and to be sure of its safety before employing it in treating a patient, and the profession has carried this reasoning into its dealings with the great problems of general medical welfare. Whenever any new plan has been devised or introduced the profession—through its organizations—has chosen to think not just once but again and again. If there has been any chance of error, if there has been a possibility that the new might to greater or less extent change the mode and scope of medical practice as it has come down through the years—the proposed plan has almost always been thrust aside in favor of the tried and traditional.

There is merit in choosing to follow such a course. Many serious mistakes are averted, time and energy and money are conserved, and in instances lives are saved. But there are also disadvantages in walking this road. It tends to give a sense of false security, it uses the standard of "what has been done" rather than "what can be done" as a guide of future action and this makes for slow progress. Above all, it tends to dull the mind to the changes which are developing in other phases of social and economic life.

The other road which the profession can take is one upon which it has ventured occasionally—but only for a short distance. It might be called the road of Laboratory Experimentation. For those who walk this highway, a new plan or scheme is not thrust aside merely because it does not fit into the scheme of things as they are, it is tested and experimented with—on a small scale. If it is found to be worth-while, even though it may overturn some of the traditions of the past, it is developed and expanded. If it is found to be of little value, it is cast aside and the lesson of its weakness is recorded.

There is danger in following this road. A new plan may prove to be of little value but the momentum which it gathers from its small beginning may carry it forward until it becomes a major phase of medical practice. Or, the plan itself may be sound and of value but the organization of the plan may have been faulty and the administration inefficient so that when it fails of its original purpose the wrong impression is given as to the cause of the failure, wrong conclusions are drawn and progress is thwarted.

There are advantages, however, in choosing this road of Laboratory Experimentation. It not only makes for more rapid—although at times less secure—progress, but it adapts itself far more readily to social and economic change. It gauges the position of medical practice in terms of "how much are we short of the best?" rather than in terms of "how much better do we stand than do our neighbors?"

This country is in upheaval, the social order is changing and will change more in the post-war period of adjustment. The practice of medicine as we knew it in the twenties and thirties is changing and will change even more in the days immediately ahead.

How best may be meet these changes which have come and are coming in our chosen field of work? We are convinced that to continue our walk down the road of Ultra-Caution is to court disaster. By the time we are absolutely sure of every proposal and have made our decision as to just what is the safest and least upsetting plan to adopt—it will be too late. Forces beyond our control will have driven us in a direction and course which is not of our own choosing.

We believe that the organized medicine on

a county and state and national level—must launch forth with all the determination and wisdom at its command and tread the highway of Laboratory Experimentation. We may make mistakes, we may upset some of our fondest traditions, but at least we will continue to hold the place which is our right at the head of those forces which shape the medical policies of our nation.

LABORATORY TECHNICIANS

Under the able leadership of Dr. Francis B. Johnson, Professor of Clinical Pathology at the Medical College of the State of S. C., a training school for laboratory technicians is being conducted at the Medical College. Associated with Dr. Johnson are Drs. Mood, Lynch, Cannon, Kalayjian, Pratt-Thomas, Ellis, Young, and Murdoch.

The course is arranged for practical training for technicians in the general field of laboratory technique, including some training in radiology and electro-cardiography. About eight students are taken in for training every year and upon the completion of the course they are required to take the examination of the Board of Registry for Medical Technologists of the American Society of Clinical Pathologists.

There is an increasing demand for well trained technicians and Dr. Johnson and his associates are to be congratulated upon the fine work which they are doing. Any members of the Association who knows of some young lady who wishes to take such a course or any physician who is in need of a good technician should correspond with Dr. Johnson.

RESOLUTIONS

On the Death of Dr. Robert Barnwell Rhett
Adopted by the Medical Society of South Carolina
June 8th, 1943

ROBERT BARNWELL RHETT, M.D.
(1890-1943)

Robert Barnwell Rhett was born in Charleston, South Carolina, August 6, 1890, the son of Robert Barnwell Rhett, M.D., of Charleston, and Margaret Butler Cornell of New Jersey.

Dr. Rhett's education began at a private school in Charleston from which he went to the University School taught by Professor E. F. Mayberry. During this time his family moved to Summerville, South Carolina, from where he commuted daily to school by train. From the University School he entered Virginia Military Institute from which he graduated in 1910. He then entered the Medical College of the State of South Carolina and was graduated in June, 1914. His internship was taken in the Methodist Hospital in Brooklyn, New York, and a session at Harvard Medical School.

With the approach of America's entrance into the First World War, Dr. Rhett entered the armed forces as a volunteer in the British Army and was commissioned a First Lieutenant in the Medical Detachment, 169th Infantry Brigade, Queen's Westminister Rifles. In recognition of his services at the front he received the British Military Cross with three citations, and was recommended for a Majority.

On March 28, 1917, at an outpost, caring for injured soldiers, he was captured and made a prisoner of war by Germany. He was taken to Belgium and placed in a Hospital to care for wounded English soldiers. Conditions in the hospital were horrible, practically no medicines or surgical supplies, and the mortality rate was high. His diet consisted of bread one-third sawdust and a soup of horse meat. He was transferred to a number of concentration camps until the Armistice, when he was placed in a hospital in Southern France to recover from a serious illness. He was then returned to the United States, where he was given an honorable discharge from the Army in January, 1919.

A few days later he entered the office of Dr. Joseph Maybank with whom he practiced medicine for a year. He practiced general medicine until 1928. He then took special study at Bellevue and New York Ear and Eye Hospital in New York City; he returned to Charleston and specialized in Eye, Ear, Nose and Throat until a few months before his death.

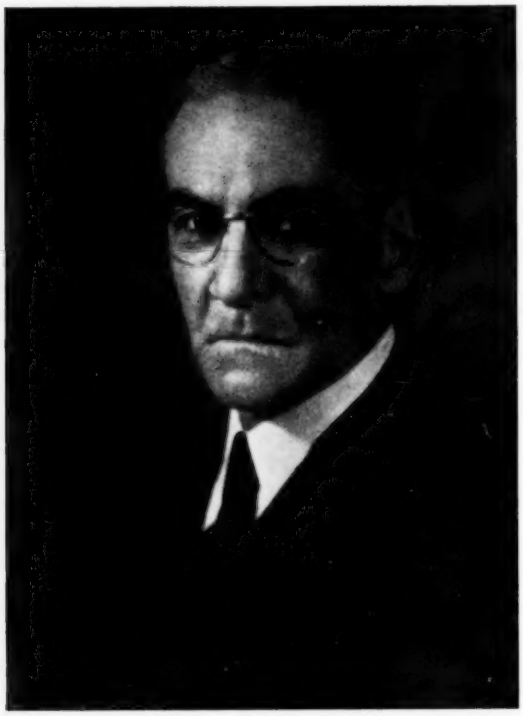
A man of ability and modesty, he never shirked a duty but never sought public acclaim. He was content in the privacy of his home, satisfied in the practice of his profession, happy in the pursuit of his hobbies.

He died suddenly and peacefully in his mountain home near Flat Rock, North Carolina, on March 23, 1943. He had carried on the name and the profession of his esteemed father, and the ideals and traditions of his distinguished family.

THEREFORE BE IT RESOLVED:

That in the death of Robert Barnwell Rhett this Society has lost a loyal and highly respected member; That a page in the Minute Book be inscribed to his memory; and that a copy of these Resolutions be sent to his family.

A. E. Baker, M.D.
J. H. Cannon, M.D.
J. E. Smith, M.D.
Committee



ALBERT EARLE BOOZER

Albert Earle Boozer was born on August 7, 1868 at Lexington Courthouse, Lexington County, South Carolina. His parents were Lexington people. He attended the grammar schools of his community and entered the University of South Carolina, graduating with a B.S. degree in 1889. He attended the University of Penn. in Philadelphia, graduating in Medicine from this institution in 1892.

In the meanwhile there had been much talk about a hospital in Columbia, so, as there were no internships in hospitals at that time, he hurried home to Columbia to help organize the Columbia hospital.

He started in general practice in Columbia in 1892 and was on the first Board of Physicians to the Columbia hospital, as the assistant to Dr. A. N. Talley. The other original members of this staff of the Columbia hospital were Dr. B. W. Taylor with Dr. T. M. DuBose, Sr., as his assistant, Dr. George Howe with Dr. Frank Ray as his assistant and Dr. A. Lewis Gaubert with Dr. W. M. Lester as his assistant. Dr. Boozer is the only survivor of this first staff of the Columbia hospital.

Dr. Boozer, along with the other members of the staff, worked with the Columbia hospital in its early days and became its superintendent, serving for three years with marked success. When he resigned from the superintendency, in 1913, he left this institution clear of debt and with ten thousand dollars in the treasury.

He was elected on the Board of Medical Examiners in 1909 and in 1911 became it's secretary. This was in the early days of Examining Boards and with no outstanding Boards to serve as models, he instituted and developed out of his own head the present system of examinations and records of the Medical Examining Board of South Carolina. He served continuously as secretary of this Board from 1911 to 1943, when he resigned due to the loss of his helpmate and wife and to the loss of his health. He served as secretary for thirty-two years, continuously, which is near to a record in the United States.

He married Miss Grace Bland Walter of Winchester, Va., on June 28, 1905. She was teaching at that time in the Columbia College, which then was located on the corner of Hampton and Pickens Streets, the present site of the Columbia Bible College. She helped and inspired him in his work and played no small part in developing the present Medical Board of South Carolina. When she passed away recently, he lost all interest in the Board, first resigning as secretary and later from the Board itself.

Dr. Boozer has done a great deal of insurance work, deciding some years ago to specialize in insurance examinations and Medical Board examinations. He was Medical Director and Examiner for the Carolina Life Insurance Co., for about twenty years, resigning from that position only a few years ago. He was the assistant Medical Referee with the Mutual Life Insurance Co. and the Medical Referee of the Missouri Life Insurance Co. He was examiner for twenty-five other insurance companies.

The Medical Profession of South Carolina should point with pride to the long years of service given to it by Dr. Boozer. When he retired he probably knew more doctors and more about each one than any other man in South Carolina.

After complying with Dr. Boozer's urgent request to be relieved of the Secretaryship at the March Meeting, the Board of Medical Examiners passed the following resolution:

Resolution of Dr. E. M. Dibble

The Board of Medical Examiners wishes to express it's regrets that Dr. A. Earle Boozer has found it necessary to resign as it's secretary, a position which he has held and most ably filled since 1911. It has been a pleasure and a privilege to be associated with him, and we feel that his place will be hard to fill and would suggest that the House of Delegates should at this time pass a resolution.

Resolved:

(1) That the thanks of the organized profession of South Carolina be hereby tendered to Dr. Boozer for his long and faithful services to the Profession, the Board and the People of the State and that we wish him health and happiness in the years to come.

(2) That a copy of these resolutions be sent to Dr. A. Earle Boozer.

Signed,
Medical Board of South Carolina,
N. B. Heyward, Sec.

BUST OF DR. F. H. McLEOD UNVEILED

In a simple but impressive ceremony, a bust of Dr. F. H. McLeod was unveiled at the McLeod Infirmary, Florence, on June 19th. The bust was a gift to the institution from Dr. James McLeod.

Mr. Ben Covington, Chairman of the Board of Trustees of the McLeod Infirmary and lifelong friend of Dr. McLeod rendered the following tribute;

I consider it quite a privilege to have this opportunity of making a few remarks upon the occasion of the unveiling of the bust of the founder of this institution. As all of you know, he has been my friend all of my life. I speak therefore of him not only in my capacity of Chairman of the Board of Trustees of The McLeod Infirmary, but also with a deep and sincere sense of appreciation for the personal relationship it has been my privilege to enjoy with him through the years.

Of course, the first thought that comes to mind is the wonderful contribution he has made to the well-being of this community and this section of the State in the practice of his chosen profession. Endowed with unusual genius, he has devoted his skill to the alleviation of human suffering, the salvation of human lives and the restoration to health of countless hundreds. No words of mine could adequately express the gratitude of those who have been made whole because of his ministrations. He was the pioneer in surgery and hospitalization in this section, and from small beginnings, through his unselfish service, his wise foresight and his undefeatable purpose, he has brought into being this splendid hospital. Through his generosity, this great institution has become a community hospital, dedicated to the service of all the people. It is our pledge to him, and our hope and trust that it will always be operated and conducted in accordance with the standards and ideals which he originally conceived, and which have made it an outstanding example among the hospitals of this country.

I cannot pass on without calling attention also to the fact that during his many years of active supervision, scores of able doctors have received basic experience here. These doctors were selected by him, tutored by him, and while some have remained, others have gone far and wide to use the experience here gained in administering to human ills. Even today they are represented in our armed forces, and while we may not know the story of all of them, we can be sure that on some far-flung field of battle, some of them are carrying on in the old tradition of service he so nobly inculcated, and with the skill he imparted.

The same is true of the graduates of the Nurses School. I wish I knew, or had some means of approximating the results of the training these fine women have received. But while we cannot measure it, we do know that the nurses who have graduated from his Nurses Training School have served and continue to serve their noble calling.

But this contribution does not consist alone in his professional accomplishments. He has been at the forefront of many of the movements designed to promote the best interests of not only this City, or this section, but also of the entire State. He has given freely of his time, his energy, his abilities and his means to the public welfare. All this he has done with no thought of personal gain, but rather, often at personal sacrifice. I could enumerate numerous instances which have come within my personal knowledge, in which he has daringly undertaken to do things, which he realized at the time would probably result in personal financial loss, but he did them, that thereby he might point the way to better things for the people he loved. Many of these sacrificial experiments on his part have borne large fruit, and this section has profited enormously thereby. The average person may have forgotten who originated some of these ideas, may never have appreciated the unselfish spirit which prompted him, but I am sure he is satisfied in the realization that he made such contributions. Throughout his long and useful life, has has possessed an indomitable spirit, a refusal to let any obstacle stand in his path. To him apparently insurmountable difficulties have been only challenges. In season and out of season, he has labored untiringly to accomplish and make real his dreams for a better community.

But after all, it is not so much what a man does as what a man is that marks him for distinction. Words fail me when I try to pay tribute to Dr. McLeod, the man. I have tried briefly to indicate what he has meant to us in the field of medicine and surgery, and as a citizen. But above and beyond all that, his shining integrity, his loftiness of soul, his tenderness of heart, his unfailing kindliness to high and low, rich and poor, his unselfish spirit of service testify to his true greatness. He is deeply, rather than merely formally religious, and he has been a guiding spirit in his own church these many years.

He has been true to the best in all the things that make up a great life, and in so doing he has been true to himself and to that inward spark which God Himself implanted in his soul. In his modesty, he would disclaim these things.

And so, as we unveil this replica of his noble presence, we do so with a deep sense of gratitude for his life amongst us, and the sincere prayer that he may be spared for many years to continue to inspire us for a greater life.

Present at the unveiling, in addition to Dr. F. H. McLeod and his immediate family were the medical and nursing staffs of the institution, the members of the Board of Trustees, the student and graduate nurses and the physicians of Florence.

ROBERT S. CATHCART AND JOHN VAN DE ERVE RETIRE FROM FACULTY OF MEDICAL SCHOOL

The Board of Trustees of the Medical College of the State of South Carolina have announced the retirement of Dr. Robert S. Cathcart, head of the department of surgery, and Dr. John van de Erve, head of the department of physiology.

A splendid tribute to these men appeared in the Charleston News and Courier in the form of an editorial which this Journal is glad to give to its readers.

News & Courier Editorial
TEACHERS OF MEDICINE

Since the medical profession is held in universally high regard for its ministrations to suffering humanity, the teachers who train the doctors must be accorded even higher honor among men.

A few days ago the board of trustees of the Medical College of the State of South Carolina announced the retirement of two members of the faculty, Dr. Robert S. Cathcart, professor of surgery, and Dr. John van de Erve, professor of physiology.

Dr. Cathcart is an outstanding surgeon not only in Charleston, but one of the best known in the South, and in addition, a leading citizen in his home community. With wise counsel and indefatigable energy he took the leadership in building up the Roper Hospital, where for years he has been chief surgeon. Five years ago, when a throat operation impaired his voice and made it impossible to lecture, Dr. Cathcart submitted his resignation from the faculty of the medical college and each year thereafter has renewed his request to be relieved, except this year, when on account of the shortage of manpower he consented to continue his service as long as needed. Each year the college had requested him to remain on the faculty, and he did so against his wishes.

Charleston is fortunate that though his official position with the medical college has terminated, Dr. Cathcart continues with Roper Hospital and the Citadel, where he also is chief surgeon, and other professional contacts. Through the years, these have been so numerous that merely to catalog them would make a formidable list.

In World War I he was appointed a first lieutenant November 13, 1917, as medical aide to Governor Richard I. Manning, and organized the medical personnel of the whole state. Then he was appointed a major in the medical section of the U. S. Army July 27, 1918, and served at Camp Wadsworth, Spartanburg, as chief of medical service; Camp Sevier, Greenville, and at an army hospital in Pittsburgh. He became a lieutenant colonel in the medical reserve in 1924, and holds a commission as colonel from Governor Blackwood as chief surgeon of the Citaled. In addition to caring for the cadets, he now has supervision over the health of soldiers at the Citadel as part of his service in World War II. He received an Algernon Sydney Sullivan award from the Citadel in 1934, the first year it was given there.

Dr. Cathcart belongs to many medical and lay organizations, and has served as president of the Southern Surgical Association, the South Carolina Medical Association and the Atlantic Coast Line Surgeons Association, and was a founder of the American College of Surgeons. In 1930 a portrait of him was hung in the Medical Society room at the Roper Hospital, the first time a living man was so honored.

Dr. van de Erve, an adopted citizen of Charleston, has been ministering in two fields here, the physical and the spiritual. In addition to being a medical teacher, he is a minister of the Dutch Reformed Church and has preached in several Charleston pulpits, notably the French Huguenot. One of his sons likewise is a doctor.

The knowledge that Dr. van de Erve and Dr. Cathcart have imparted to their students through the years now is doing good in scores and hundreds of places, not the least of them on the fields of battle throughout the world. More important still have been the personal impressions and influences they

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have exerted over the young men who came to their classrooms and laboratories. They have made their mark and will not be forgotten.

A REPORT OF ONE OF THE DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

BY T. A. PITTS, M.D.

The 1943 meeting of the American Medical Association was limited to a meeting of the House of Delegates which was held in Chicago, beginning June 7th. The headquarters was in the Palmer House. Upon the report of the credentials committee, it was found that every state was represented with a full delegation. Only Alaska, Hawaii, and the Philippines were not represented. According to many, this was unusual. South Carolina was represented by both of her legally elected delegates, Dr. J. H. Cannon of Charleston, and Dr. T. A. Pitts of Columbia. Another South Carolina man with a vote was Dr. William Weston of Columbia who represented the section on Pediatrics.

President Rankin

Brigadier General Fred W. Rankin, president of the American Medical Association and chief consulting surgeon of the Army, made a splendid address before the House of Delegates. He called upon the House to take some action enabling the people to budget their medical expense and to take into consideration their ability to pay. He warned the group that they must "face realistically the trends in the national and international social and economic structures."

He also stated that plans were being made by the military authorities for medical specialists to qualify for their after-the-war specialty by the medical experience which they get in the army. He said that the boards of physicians who confer the present titles of medical specialists will from now on consider military experiences as qualifications.

Dr. H. H. Shoulders

The address of the Speaker of the House, Dr. H. H. Shoulders of Nashville, stressed the necessity for further study and future planning and stressed that we must make no mistakes.

Dr. James E. Paullin

The address of the incoming president, Dr. James E. Paullin, of Atlanta, was one of the most able of all of the presentations that the House was privileged to hear. He reviewed the changing situation and indicated the necessity for cooperation with the government in establishing treatment centers and in the redistribution of civil medical care to compensate as far as possible for the many who have gone into the service. He said that more than half of the medical profession would be in the armed forces before the end of the war. He said that a total of (new graduates) physicians would be approximately 1200 this year instead of the usual 5,000. To this he added about 600 who are being retired each year from military service. This would indicate approximately 20% of the available medical personnel being directed toward civilian care, the remainder being put into the service by the military. He stated that approximately one thousand physicians had been relocated in the war industry areas. He predicted that experimental medicine would suffer during the active military campaign, particularly infantile paralysis, heart disease, arthritis, cancer and mental disorders.

Dr. Paullin, as did all the other officers, had high praise for all of the employees of the American Medical Association, especially Morris Fishbine and Olin West.

Major General Norman J. Kirk

Another address of note was delivered by Maj. General Norman J. Kirk, the newly appointed surgeon general of the United States Army. He had just returned from Africa. He stated that the death rate during the period which included the fighting in the region of Kasserine for the sick and wounded ranged from 2½% to 3½%, in comparison with a death rate of 15% to 18% in evacuation hospitals of World War No. 1. He said that the clearing stations were from eight to twenty miles from the evacuation hospitals and that the latter were as much as 650 miles from base hospitals. "But it was the plasma, the surgery and the sulfa drugs which saved so many lives," General Kirk asserted. Transporting the sick

and the wounded from evacuation hospitals to base hospitals was facilitated to a great extent by airplanes. Some thirteen thousand cases were evacuated by planes. The General with his realistic presentation, inspired confidence among all who were privileged to hear him. Many favorable comments were heard throughout the meeting regarding this address.

Brigadier General David N. W. Grant

Another splendid address, one of the high lights of the meeting, was given by Brig. Gen. David N. W. Grant, Air Surgeon of the United States Army. There were many interesting points associated with the medical personnel in the air service related by General Grant, among those "The flight surgeon, who lives with the pilots and crew members, must spot the boys at their peak of efficiency—also to know before they themselves know they are in danger of cracking up and perhaps never flying again." The selection of flight surgeons themselves is very important. They are hand picked all the way up the line and as a rule they must serve with the air forces for a year before he is appointed a flight surgeon. Gen. Grant talked interestingly of his tour of England and North Africa as well as the South Pacific, and declared that some 30,000 American casualties had been evacuated by air from all fronts. He stated that the future of military medical care revolved to a large extent around air transports. He stated that helicopters were being experimented with for operating a shuttle service for sick and wounded. General Grant praised the type of medical care that our military personnel was receiving.

Some House of Delegates Acts

The House of Delegates awarded the Distinguished Service Medal of the American Medical Association to Dr. Eliott P. Joslin of Boston, Mass., for his work in diabetes.

One of the most far reaching actions of the House of Delegates was the creation of a bureau of medical service. This will be an aid to those studying or contemplating various methods of prepaid medical care.

Upon the action of the reapportionment of delegates, South Carolina was one of the states who lost a delegate. The House placed a figure of more than 900 members for each delegate.

In a summary of the financial report by the board of trustees, the gross income of the Association for the year 1942 amounted to $1,975,236.30, an increase of $36,000 over the preceeding year. The total expenditures for the year was $1,644,820.96.

The South Carolina delegates received instructions from Council of the South Carolina Medical Association to support only one resolution. It was regarding the editor of the Journal. This was not introduced in voting form.

Efforts are continuing to formulate terms of legislation regarding some of the barbaturates. There was mention made of scientific tests for intoxication having received recognition by the legislature and by the courts. Effort is being made to formulate a model law.

Dr. Herman L. Kretschmer of Chicago, an internationally known urologist, and former treasurer of the American Medical Association, was elected President-elect of the Association.

In addition to the regular delegates, South Carolina was represented by Dr. F. E. Zemp, Dr. I. J. Mikell, Maj. J. M. Davis and Dr. Buck Pressly. While these men had no actual vote in the proceedings of the House of Delegates, they attended with regularity and apparently were keenly interested.

CORRESPONDENCE

June 19, 1943

Dear Julian:—

Last year, you wrote a "travelogue" of our trip to Atlantic City, so I am writing you a brief outline as we experienced it, in somewhat the same style.

On one of the hottest June days ever experienced in Columbia, we waited patiently for the train to arrive from Charleston. It arrived at the inconvenient lunch time of 12:15. The most seasoned secured a little lunch before getting on the train as the diner is not attached until the train reaches Asheville. The party leaving Columbia was made up of Dr. William Weston, Dr. I. J. Mikell, Dr. F. E. Zemp, Dr.

William A. Boyd and myself. On the train, however, was Dr. Joe Cannon of Charleston.

After the usual hustle and bustle in settling down, we enjoyed the air-conditioned coach for quite a ride. Then the less fortunate, as far as lunch was concerned, became very hungry. Foraging parties returned with water only. There were two bulky looking packages donated by patients, one belonging to Dr. Zemp, and the other to Dr. Mikell. After some hesitation these were opened and to the delight of the entire party and a few others each was found to contain a beautifully browned fried chicken and a dozen hard boiled eggs. With the prospect of food, appetizers appeared from many angles. Everyone prepared himself properly and a splendid repast was enjoyed by all.

At Asheville, the party was joined by Dr. Warren White of Greenville. He and Dr. Boyd were on their way to Cleveland to the meeting of the American Orthopedic Association. They left the party at Cincinnati the next morning.

Most of the refreshments had been dispensed upon reaching Asheville and various emergency calls were sent out immediately upon arrival and success was met by all. One of the outstanding mental pictures remaining is Joe Cannon on the platform in Asheville with five bottles of Seven-up in each hand.

A delightful evening was spent waiting for food and after being seated in the diner, enjoying the beautiful scenery of the French Broad in the cool of the evening. We soon learned that uniform personnel received preferences and we heartily agreed with this. Dining car stewards were prone to tell civilians that they would be fed after the uniform personnel had been served, if the dining car had not reached its destination and if there was any food left.

Upon reaching Chicago, the weather had changed from the torrid South to the frigid mid west. Top coats were in evidence everywhere. It was with some amusement that Buck Pressly was seen to arrive at the Palmer House on Monday morning in white shoes and trousers, having journeyed from Due West, S. C. to Chicago, Ill., by plane by lunch time of the same day.

Upon reaching Chicago, the South Carolina party was joined by Maj. J. M. Davis. Chicago, is in the leave area of Chanute Field, where Maj. Davis is located, and the Major was quite familiar with the better "hot spots" around the city and proceeded to prove his knowledge. The Imperial Room at the Palmer House proved delightful, as did the Pump Room of the Ambassador Hotel. Dr. Mikell was inclined to assist the pianist in each of these places. The Pump Room is highlighted by the wonderful steaks—the only time it was noted on any menu. They were delicious. They were extremely thin and cost $3.00 each.

Many of the South Carolina men viewed at close range the ramifications of the American Medical Association politics for the first time. One of the outstanding members who proved himself in "The know" was our own Dr. William Weston.

Mrs. T. A. Pitts having finished her visit to her family in Nebraska, joined the party for the last two days and for the journey home.

Returning home was not a time of choice, but a time when reservations could be gotten. Buck Pressly had his plane seat taken by a priority about thirty minutes before the take-off. Dr. Zemp and Dr. Mikell were able to get reservations back one week after the majority of the party. They spent the time visiting the Mayo Clinic at Rochester, Minn. Travel now proves to be quite a problem, with a congenial party and an itinery that is not too strenuous, and with a sense of humor, one can and does have a lot of fun attending a meeting of the American Medical Association.

With kindest regards and best wishes,

Yours very truly,

Tom

(T. A. Pitts)

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by
AERA SAKOS

If this column would write about it's pet peeve for the month, it could not miss the physician who will not support his county medical society. Usually this is the man who has received many honors and privileges through the efforts of organized medicine. Billy Smith says he knows of such a man. It seems that this physician was caught in a severe rainstorm while out hunting. Seeking refuge in a large hollow tree, he was imprisoned when the wet tree shrunk about one third its size. Having a few minutes to meditate his past, he began to think about his neglect of the medical societies. Soon he felt so small that he easily crawled out the tree and to freedom.

Possibly a County Society is neglected through ignorance. Dr. Warren White tells of the old lady in a similar predicament. This dear old soul had made a beautiful pair of pajamas for the soldiers. When they were presented at the Red Cross Office, they were examined and found to be without any opening in the front of the pants. As gently as possible, it was explained to her that they could not be used by a soldier. She thought for a moment and then visibly brightening asked "And why can't they be used by a bachelor?"

Of course, there is always the member who goes in for organized medicine because there is nothing else he can do. This type recalls the story told by Dr. Buck Pressly. It seems that Dr. Pressly was visiting the State Hospital and was impressed by a group of three men. One man was picking imaginary objects out of the air, another picking the same from the floor and the third making circular motions with his index finger in the air. "What are you doing?" the first was asked. "I'm pulling stars out of the sky," he replied. "And you?" as he turned to the second. "I'm picking them off of the floor," the second answered. "Now what about you?" the third was asked. He replied, "I'm not doing anything in particular, but if a fellow doesn't do something around this Damn place, he'll go nuts."

Possibly, we would all want to better establish ourselves in our medical circles if we remember the plight of one of our doctors as told by Dr. L. M. Stokes. It seems that this doctor, after eight years of absence, alighted at the station of the town of his former practice. There was, despite his expectations, no one on the platform whom he knew. Somewhat discouraged, he sought the station master, a friend since boyhood. To him at least he would be welcome, and he was about to extend a hearty greeting when the other spoke first. "Hello, Doc," he said. "Goin' away?"

This column wishes to thank all who have contributed to this months edition. Their names will appear at the bottom of this column. Again we remind you that this column has no intention of printing any facts resembling the truth and any similarity between this column and anything printed anywhere else is certainly coincidental, that's probably where we got it.

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Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

ABSTRACT NO. 488

Student E. B. Ellis (presenting):

Present Illness: 25 year old negro man admitted on April 15, 1943 in deep shock and unable to give any history. Only information obtainable was from friend who said he had been sick for three weeks and that a doctor had said he had typhoid fever.

Physical Examination: T—92 (R). P—50 (apex). R—10. B. P. ? Patient moribund, in deep shock and extremely dehydrated. Skin cold, dry and inelastic. Old petechia scattered over chest and abdomen. No glandular enlargement. Eyes: lids open, pupils react very little to light; sclerae injected (recorded as icteric by another examiner). Ears: negative. Nose: dry crusts almost fill nostrils. Mouth: Lips, teeth and tongue covered with caked and clotted blood and extremely dry. Neck not stiff. Trachea in midline. Lungs clear to P and A anteriorly. Heart not enlarged. Rate very slow and sounds distant without murmurs. Rhythm regular. Radial pulse not felt and B. P. not obtainable. Abdomen: general doughy muscle resistance. No masses felt. Rectal: No sphincter tone, dark blood on examining finger. Prostate small.

Laboratory: Urine cloudy and yellowish-red, Sp. Gr. 1.015, Albumin 3 plus, sugar and acetone 0, WBC 2/HPF, RBC 0, casts 2 plus finely granular.

Blood Counts: WBC 7,900 and 9,950, RBC 4.2 million, Hb. 15.5 and 14 gms. PMN 68%, Lymphs 26%.

Bleeding Time: 4 min. Clotting Time 12 min. Icterus Index: 65. Vandenberg: Direct 3 plus. Delayed 4 plus. Phosphatase 5.1 units. Urea N—540 mg. Creatinin 8.88 mg.

Course: Temperature remained around 92 and terminally rose to 94.4, pulse around 65. Heart action became stronger and B. P. recorded as 85/60 and 116/86, and pulse palpable at wrist. Roused somewhat and was able to talk. Urinary output not recorded but apparently much diminished; 400 cc. removed by catheterization on one occasion. Some blood discharge from rectum. Jaundice increased steadily and on the day before death, the sclerae were definitely yellow. Became weaker and died on 4th day after admission.

Dr. Robert Wilson, Jr. (Conducting): Mr. Fairey, how do you figure this one out?

Student Fairey: I think there are a lot of possibilities, but I cannot make a definite diagnosis. The temperature is quite puzzling. I considered the following conditions: acute yellow atrophy of liver, Weil's disease, Yellow fever, some form of drug poisoning and typhoid fever. The latter is not likely, as uremia and jaundice are not usually a part of this disease. Such a low temperature is not likely in Weil's disease or acute yellow atrophy unless there is some lesion in the hypothalamic region and Weil's disease is not usually so severe a disease. Drug poisoning may cause a drop in temperature due to shock. Yellow fever is not supposed to be endemic in this section.

The icterus index of 65 and the terrifically high urea nitrogen indicate severe liver and kidney damage. The uremia may have been the cause of the hemorrhagic manifestations.

I think the man had either Weil's disease or some drug poisoning. There are a good many possibilities among the latter, but mercury, bismuth or arsphena mine are the most likely.

Dr. Wilson: What kind of lesions do you think were produced?

Student Fairey: A severe nephrosis in the kidneys and cloudy swelling and some necrosis of the liver cells.

Dr. Wilson: Would this involvement of the tubules cause uremia?

Student Fairey: There must have been some involvement of the glomeruli also.

Dr. Wilson: You believe then that there was some trouble with the liver and a lesion of the kidneys. What kind of kidney damage is caused by neoarsphe namine?

Student Fairey: Tubular degeneration.

Dr. Wilson: I do not believe that it would primarily cause kidney damage; I have never seen it to this extent. What organs would mercury damage?

Student Fairey: The intestine first and then the kidneys.

Dr. Wilson: Does it damage the liver?

Student Fairey: I believe it could, but usually doesn't.

Dr. Wilson: I have never seen jaundice in bichloride of mercury poisoning. The sulfonamides are another group of drugs which are capable of producing jaundice and uremia.

Student Fairey: Yes, they may cause hemolytic jaundice and obstruction of the kidney tubules by crystals of the drug.

Dr. Wilson: Mr. Edgerton, what do you think were the pathological lesions in this case?

Student Edgerton: I would expect necrosis of the kidney tubules and marked liver damage. The patient was markedly dehydrated and had an about normal blood picture which probably indicates a severe anemia. The jaundice could have resulted from marked blood destruction.

Dr. Wilson: What do you think was the cause of this?

Student Edgerton: A poison.

Dr. Wilson: Was this poison bacterial, organic or metallic?

Student Edgerton: I believe it was a drug poison, but I am not sure which one.

Dr. Wilson: Suppose you could have asked this patient just three questions; what would they have been?

Student Edgerton: I would have asked him what kind of medicine he had been taking, if he had diarrhea or bloody stools, and how long he had had urinary retention.

Student Ellis: The following information was later obtained from the Public Health Service. He received two injections of neoarsphenamine in March, the last one on the 29th. His Wassermann was positive and he had gonorrhea about a year ago.

Dr. Wilson: Mr. LaBorde, what do you think caused the kidney and liver damage?

Students LaBorde: The arsphenamine is possibly responsible, but I doubt if two "shots" would be sufficient to produce liver damage.

Dr. Wilson: Sometimes two and even one are enough. You think he was poisoned with neoarsphenamine?

Student LaBorde: I am not sure, but that's as good a choice as any. I also considered Weil's disease and typhoid fever.

Dr. Wilson: Don't you usually have fever with both of these diseases?

Student LaBorde: Usually, yes, but severe shock might account for subnormal temperature.

Dr. Wilson: What causes shock in typhoid fever?

Student LaBorde: Hemorrhage, perforation or profound toxemia.

Dr. Wilson: The usual agglutination tests were negative. I do not think any of us can make a definite diagnosis. When I saw him on the Ward I did not know what was wrong. There was a case that died in Roper about a year ago that was similar to this. He had "fish-scrap" poisoning with severe uremia and jaundice and at autopsy the kidney tubules were plugged with hemoglobin casts. Perhaps Dr. Walton can enlighten us on the effects of some of the drugs that have been mentioned.

Dr. Walton: In regard to arsphenamine causing kidney damage, some damage may be produced, but the injury is primarily to the liver, and is associated occasionally with dermatitis. Jaundice is very uncommon with bichloride of mercury poisoning. Bismuth may cause both liver and kidney damage, but is seldom seen in so severe a state. The sulfonamides can cause tubular damage and focal liver degeneration. To what degree damage is due to deposits of crystals in the tubules or to a direct chemical action of the drug it is difficult to say.

Dr. Kelley: I thought this man might be suffering from tubular obstruction due to deposits of hemoglobin casts, probably on the basis of blood destruction caused by one of the sulfa drugs.

Dr. Pratt-Thomas: The differential diagnosis has been quite complete. I think Weil's disease was the chief disease other than poisoning that had to be excluded. Patients with this disease have jaundice and die of kidney failure, but seldom with nitrogen retention of this magnitude. I wish to differ with Mr. Fairey as to the seriousness of Weil's disease. The mortality rate varies, but in the United States it is about 30%.

This man died of sulfonamide intoxication, probably sulfathiazole. At necropsy there were no remarkable gross findings. The liver and kidneys showed some swelling and there were hemorrhagic lesions about the lips and in the lungs and colon.

Microscopically the conspicuous features were found in the kidneys. Many of the comvoluted tubules were dilated and many of them were blocked by masses of blue and purple material. This material consisted of round and spherical bodies as well as irregular granules and plates. We immediately thought of bichloride of mercury poisoning as the appearance resembled the calcification of tubular epithelium that occurs in this condition. Further search revealed orange brown bodies in the tubules which under the polarizing microscope proved to be dubly refractile crystalline bodies with lines radiating out from the center in spoke-like fashion. Others were divided into triangular segments and some ap-

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peared homogeneous. These were identical with the sulfathiazole crystals present in other reported cases of renal crystallosis due to this drug. Lederer and Rosenblatt[1] have reported similar cases and Antopol[2] and his associates produced similar lesions in rats. It has also been recorded in sulfadiazine intoxication.

Dr. Belkin: Portions of kidney tissue that had been fixed in formalin were macerated and extracted with hydrochloric acid and the extract tested for the presence of sulfonamides. The color reaction obtained was more purple than red, which is the characteristic reaction, the formalin apparently interfering with the reaction. Evaporation of the extract left crystals that were consistent with the hydrochloride of sulfathiazole. The chemical evidence is not conclusive, but strongly presumptive that a sulfonamide was responsible for this man's death.

Dr. Lynch: This case should teach a lesson. The sulfa drugs are dangerous and must be employed with care. I am not saying that some doctor gave this patient sulfathiazole for what he believed to be typhoid fever, but there has been much indiscriminate and over-lavish use of these drugs and they have not been handled with proper respect.

1. Lederer, M. and Rosenblatt, P., Death During Sulfathiazole Therapy — Pathologic and Clinical Observations on Four Cases with Autopsies, J. A. M. A., 119: 8, May, 1942.

2. Antopol, W. et al, Changes in the Urinary Tract and Other Organs after the Administration of Three Sulfanilimide Derivatives, Arch. Path. 31: 5 92, May, 1941.

SOCIETY REPORTS

Abbeville County

At the regular monthly meeting of the Abbeville County Medical Society on Thursday night, May 20th at 8:30 P. M., Dr. Garnet Tuten of McCormick gave an interesting discussion on "Mechanics of Labor and the Use of Forceps."

Dr. Allen Bradham, Urologist of Anderson, S. C., gave a very enlightening talk on "Carcinoma of the Ureter" and displayed a number of interesting X-ray films on representative cases.

Columbia Medical Society

Papers by the staff of the South Carolina Tuberculosis Sanitorium and an address by Lieut. Colonel Henry M. Thomas, M. C., U. S. A., were the features of the June meeting of the Columbia Society. Lieut. Colonel Thomas discussed "Meningococcus Infections, Diagnosis and Treatment."

Chester County

On the night of June 1st The Chester County Medical Society met in the dining room of the Pryor Hospital, Chester, S. C. After a delightful supper the president of the society, Dr. Edmond Wells, introduced Dr. Wm. Boyd, of Columbia, S. C., president of the Columbia Medical Society, who had kindly consented to furnish the program for the evening.

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Dr. Boyd introduced Dr. George H. Bunch, Columbia, S. C., who gave a talk on "Carcinoma of the Big Intestine." Following this Dr. E. E. Epting read a paper on "Internal Fixation of Fractures of the Long Bones" and demonstrated X-ray films. Dr. F. E. Zemp then gave a talk on "Heart Murmurs." Dr. W. A. Boyd in his very gracious manner closed the program and in doing so called attention to the fact that the Physical Education Program in high schools in S. C. had very little medical supervision. He displayed several X-ray films showing avulsion of tibial tubercle due to prolonged physical exercise.

Before closing, the society expressed their thanks and appreciation to Dr. Boyd and friends for their very splendid program.

Dr. Strother Pope of Columbia was also a member of this party.

Greenville County Medical Society

At the June meeting of the Greenville Society, Dr. W. S. Judy and Dr. Gertrude Holmes presented a paper on "Modern Conception of Treatment of Carcinoma of the Breast." This was preceded by a motion picture film—History of X-ray.

Florence County Medical Society

At the June meeting of the Florence County Medical Society, Dr. W. A. Smith, President of the S. C. Medical Association, was the guest speaker. Following a discussion of some of the problems confronting the Association, he gave a paper of "Cystic Diseases of the Lungs."

Also present were several of the medical officers of the Florence Air Base who discussed the question of venereal disease among soldiers and particularly among the personnel of the Air Forces because of the effect of the sulfa drugs on efficiency in handling machines.

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